

DOCUMENT RESUME

ED 247 613

CS 504 642

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TITLE Organizational Structure and the Consequences for Public Relations.
PUB DATE May 84
NOTE 42p.; Paper presented at the Annual Meeting of the International Communication Association (34th, San Francisco, CA, May 24-28, 1984).
PUB TYPE Reports - Research/Technical (143) -- Speeches/Conference Papers (150)
EDRS PRICE MF01/PC02 Plus Postage.
DESCRIPTORS *Classification; *Communication Research; *Group Structure; Higher Education; *Information Dissemination; Job Skills; Models; *Organizational Communication; Power Structure; *Public Relations

ABSTRACT

J. Hage and F. Hull (1981) developed a typology of organizations based on two major dimensions--scale and complexity. The typology delineates four types of organizations: Type 1, "traditional" organizations, typically small-scale structures with low complexity; Type 2, "mechanical" organizations that are large scale, low complexity structures employing many people; Type 3, "organic" organizations that are small scale but characterized by high complexity and small numbers of employees; and Type 4, mixed mechanical/organic groups that are large scale, high complexity operations employing many people. Using existing data collected from 216 organizations employing public relations practitioners, a study investigated how public relations is related to the Hage-Hall typology of organizational systems. Data analysis revealed that (1) Type 1 organizations were characterized by public relations practitioners who only rarely counseled management about public opinion toward their organization, and by public relations activities that were more centralized than in other organizations; (2) Type 2 organizations had less centralization of public relations functions than Type 1 groups; (3) Type 3 organizations were the only ones to place significantly less emphasis on holding press conferences and making formal contact with journalists; and (4) public relations practitioners in Type 4 organizations produced the least number of press releases, instead spending their time writing speeches, counseling management, and working with the news media. (FL)

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ORGANIZATIONAL STRUCTURE
AND THE CONSEQUENCES FOR
PUBLIC RELATIONS

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Paper presented to the Organizational Communication Division, International
Communication Association, annual convention in San Francisco, California.

May 1984

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PURPOSE OF THE STUDY

In 1981 Hage and Hull developed a typology of organizations based on two major dimensions: scale and complexity. Their secondary analysis of data collected in 1973 by Blau's Comparative Organization Research Program (1976) supported their a priori reasoning and thus gave some face validity to the typology. The very fact that the two sociologists used an existing data set collected for other purposes adds credibility to their contention that scale and complexity can be employed to generate a typology of organizations' environmental niches.

Hage and Hull undertook their analysis primarily to broaden the theoretical framework of research in innovation. This study will look at how public relations is related to this same typology of organizational systems. The resulting addition to the body of knowledge about organizations and their public relations practices should be beneficial to all students of organizations as well as to public relations scholars, teachers and practitioners.

REVIEW OF THE LITERATURE

Structure

Within the literature of sociology, much has been written to support the structuralist position that structure and organizational constraints control the flow of information, both within the organization and from it to its various relevant external publics. Since this study uses the organization as the primary level of analysis, this structuralist approach seems appropriate. As Hall (1972:291) summarizes:

. . . the communications system is vitally affected by other structural factors. Communications do not exist outside the total organizational framework. . . .

Hage and Hull (1981) argue that scale and task complexity are two critical structural variables that subsume other important structural considerations. Large scale of the environment, for example, is also positively related to large size of the organization; low uncertainty; environmental task non-variability; codified (analyzable) knowledge; and a stable, static environment. Small environmental scale is positively correlated with small organizational size; high environmental uncertainty; task variability; uncoded knowledge; and a shifting, dynamic environment.

The key concept to emerge from all these considerations

of scale (also referred to in the literature as "size," "market demand" or "sales volume") is the repetitiveness of events rather than a raw number (number of employees, number of clients, number of sales dollars, etc.).

Variables having effects parallel to complexity include technical sophistication, skill level, search behavior and homogeneity (few diverse functions) or heterogeneity (many diverse functions) (Hage and Hull, 1981).

Since Hage and Hull conceive of both task complexity and scale as input dimensions of work, the two researchers also believe these dimensions relate to differences in the throughput of organizations--the basic structure of the work flow, or production technology.

Selecting the correct dimension for all three of these structural variables is critical. Too often, the emphasis on technology, for example, has been routineness (Perrow, 1967; Hage and Aiken, 1969) or automation* (Hickson et.al., 1969; Woodward, 1965; Sheppard, 1971). These dimensions accent the machines involved rather than the skills necessary to operate them as well. A more appropriate measure of technology, then, might be knowledge or task technology or what Hage and Hull (1981:4) call "what is known about the production of a particular product and how important skill level is for production." This concept incorporates both the human and mechanistic elements of technology.

The two sociologists, borrowing from economic thought, apply the supply/demand principle to technology (1981:4-5):

On the supply side, technology is best viewed as the level of knowledge known about how to produce a product. The more that is known, the more sophisticated must be the skill levels of the people employed to develop, produce and market the product or produce the service. As Lawrence and Lorsch (1976b) suggest, the growth in knowledge not only means that routine work is replaced by machines, but also that more specialized skills are needed. While at any moment in time there are trade-offs between machines and personnel, the evolutionary trend is for growth in task knowledge to lead to both greater machine and personnel sophistication.

Thompson (1967:15-18), in a compatible measure of technology, developed the concepts of "long-linked," "intensive" and "mediating." A long-linked technology, as found in the assembly line, ". . . involves serial interdependence in the sense that act Z can be performed only after successful completion of act Y, which in turn rests on act X, and so on." Organizations with mediating technology like banks, insurance companies and the post office "link clients or customers who are or wish to be independent." Intensive technology, as found in hospitals, uses a variety of techniques to bring about change; "but the selection, combination and order of application are determined by feedback from the object itself."

Some researchers, following Woodward's study of 20 British manufacturing firms (1965), consider technology the key element in organizational structure. Other theorists echo Blau et. al. (1976) and Hickson et. al. (1969) in contending that

size dominates organizational structure. Conflicting findings in subsequent research, however, fail to confirm either of these two approaches (see Hull, 1977 and 1979 and Kimberly, 1976, for a summary of these studies).

Hull (1977:18) showed that size and non-variability measures (scale and task complexity) have parallel effects on organizational structure. He demonstrated that these two basic dimensions, then, "meaningfully array and summarize the major concepts used in most typologies"--those of Thompson, 1967; Perrow, 1967; Lawrence and Lorsch, 1967a and b; and Hage, 1980. The resultant four-cell typology makes organizational analysis a more practical undertaking than with complex typologies ranging up to 64 cells (Jurkovich, cited in Hage and Hull, 1981). But the limitations of the two dimensions, as Hage and Hull (1981) concede, also dictate their conception in abstract terms:

"The scale dimension is the number of quantities in time; the complexity dimension is the abstract relationship among a number of qualities in space."

The resulting typology of organizational design is shown in Figure 1 (from Hage and Hull, 1981:22.5). Type 1 organizations, according to the Hage-Hull four-cell matrix, are typically small-scale operations with low complexity. These organizations, called "traditional" or "craft," have a low knowledge base and few employees. Because few small organizations have a public relations department, this study expects to find little public relations activity in this sector.

Figure 1

TASK CHARACTERISTICS AS PREDICTORS OF THROUGHPUT
TECHNOLOGY AND ORGANIZATION STRUCTURE

SMALL SCALE

small size
non-automated machines
high uncertainty
task variability
shifting, dynamic
uncodified knowledge
low % engineers

LARGE SCALE





large size
automated machines
low uncertainty
task non-variability
stable, static
codified knowledge (analyzable)
high % engineers

LOW KNOWLEDGE TECHNOLOGY

low complexity
homogeneity
(few diverse functions)
low skill level
little search behavior
low % R&D

HIGH KNOWLEDGE TECHNOLOGY

high complexity
homogeneity,
(many diverse functions)
high skill level
much search behavior
low % R&D

<p>TECHNOLOGY 1.</p> <p>Batch</p> <p>STRUCTURE</p> <p>Shape of Structure equat</p>  <p>Distribution of Power medium centralization</p> <p>Control by Plan few rules few job titles short hierarchy</p> <p>Control by Feedback medium A/P ratio</p>	<p>2. TECHNOLOGY</p> <p>Assembly-line</p> <p>STRUCTURE</p> <p>Shape of Structure shaft</p>  <p>Distribution of Power high centralization</p> <p>Control by Plan medium rules medium job titles tall hierarchy</p> <p>Control by Feedback low A/P ratio</p>
<p>TECHNOLOGY 3.</p> <p>Batch</p> <p>STRUCTURE</p> <p>Shape of Structure diamond</p>  <p>Distribution of Power low centralization</p> <p>Control by Plan few rules few job titles short-medium hierarchy</p> <p>Control by Feedback high A/P ratio</p>	<p>4. TECHNOLOGY</p> <p>Continuous process</p> <p>STRUCTURE</p> <p>Shape of Structure pyramid</p>  <p>Distribution of Power medium centralization</p> <p>Control by Plan many rules many job titles medium-tall hierarchy</p> <p>Control by Feedback medium A/P ratio</p>

Type 2, or "mechanical" organizations, on the other hand, are large-scale, low complexity structures that employ many people. Although they share a low knowledge base with type 1 organizations, their very size should indicate the presence of a public relations department and its myriad activities. Type 3 organizations, called "organic" from the Burns and Stalker model (1961), are small scale but characterized by high complexity. The few employees they do have (relatively) tend to be highly skilled professionals and among them one would expect to find public relations professionals. Type 4 organizations, of a mixed mechanical/organic make-up, are large-scale, high-complexity operations that employ many people. Because they are characterized by product mix and accompanying mix of large and moderately sized market context as well as shifting numbers of competitors, they would seem to have the greatest need for a large, comprehensive public relations program that reaches outside of the organization itself.

For a more comprehensive profile of the four organization types, see Figure 2 (from Hage and Hull, 1981:12.5).

Public Relations

No previous study has attempted to describe public relations programs within organizations according to these four organization types. The literature does suggest that in type 4, however, one would expect to find many professionals and boundary spanners (Hage and Hull, 1981; Mintzberg, 1979);

Figure 2

A Typology of Environmental Niches Based on
The Inputs of Knowledge Technology and Scale

		SCALE	
		small	large
KNOWLEDGE TECHNOLOGY (COMPLEXITY)	Low	<p>TYPE #1: TRADITIONAL</p> <p>PERFORMANCES: Innovation in products moderate, innovation in process low. Product life moderate. Productivity low, volume fluctuates.</p> <p>INPUTS: Knowledge base low, craftsmen and semi-professionals. R&D negligible</p> <p>Machines simple and general purpose. Few employees.</p> <p>MARKET CONTEXT: Many firms of varying sizes, but none dominant; essentially the classical market context. ROI usually small.</p>	<p>TYPE #2: MATURE, MASS</p> <p>PERFORMANCES: Innovation in products low, but occasional qualitative breakthroughs; process innovation moderate..Product life long. Productivity high, volume massive and stable.</p> <p>INPUTS: Knowledge base low, mostly unskilled workers with some technical experts. R&D proportionately small, but with long-term payoff. Machines specialized and moderately automatic in assembly lines. Many employees.</p> <p>MARKET CONTEXT: Few firms of large size, oligopoly of successful firms operate in a monopoly context. ROI moderate, relatively stable.</p>
	High	<p>TYPE #3: SOPHISTICATED, SPECIALITY</p> <p>PERFORMANCES: Innovation in products high, process innovation moderate, relatively high likelihood of qualitative breakthroughs. Product life short. Productivity low, volume low, prototypes and small batch runs.</p> <p>INPUTS: Knowledge base high: skills of professionals, technicians, and master craftsmen. R&D proportionately large, short-term payoff. Machines general purpose with some highly technical. Few employees.</p> <p>MARKET CONTEXT: Many firms in fluid competitions as products constantly under development. Individuated market context. ROI extremely high for successful risks, but unstable.</p>	<p>TYPE #4: SOPHISTICATED, MASS</p> <p>PERFORMANCES: Innovation in products and innovation in process moderate. Moderate likelihood of qualitative breakthrough. Product life relatively short. Productivity is moderate; Volume large, but efficiency hampered by product mix.</p> <p>INPUTS: Knowledge base high: skills of maintenance workers, engineers, and professional managers. R&D moderate, both short and long-term payoff. Machines are varied from general purpose to highly automatic, continuous process. Many employees.</p> <p>MARKET CONTEXT: Some firms of large size and various of moderated size, shifting number of competitors, monopoly market context for major product lines; but segmentation of others. ROI moderately high, moderately stable.</p>

and public relations professionals are considered boundary personnel." (Schein [1970] described this linking-pin individual as a key person in both the organization and its environment. Other organization theorists alluding to the boundary role include March and Simon [1958], Hall [1972], Perrow [1972], Wilensky [1967], Evan [1966], Guetzkow [1966], and Blau and Scott [1962].)

Hage (1980) suggests that as the speed of technological change increases, so will cooperative relationships between an organization and its environment via the communication linkage. He cites the relationship between industry and academia in Germany and between the federal government and private industry in this country's IPA program. This situation could encompass both type 3 and type 4 organizations since both are characterized by high rates of knowledge change and growing complexity. Burns and Stalker (1961) contend that the context of communication in organic organizations, though, consists of information and advice. The research of Lawrence and Lorsch (1967a) indicates that a successful organization in a very uncertain environment uses integrating individuals to coordinate the work of interdependent units or activities within the organization. Again, these boundary personnel in public relations are directing their efforts inward rather than outward, as described in the Hage research.

Finally, Tracy and Azumi (1976) found strong support for the notion that task scope, or complexity, is positively

related to the presence of communication. In the setting of 44 Japanese factories, they discovered a greater reliance on communication as a mechanism of control in large-scale organizations. One would expect, then, to find more communication in large-scale, complex organizations than in small-scale organizations of low complexity. However, these two researchers used "administrative intensity" as an indirect measure for the volume of communication so perhaps their theory cannot be used to predict the volume or kind of public relations activity as well.

Research Questions

Because the literature relating organizational communication and especially public relations to the Hage-Hull typology is suggestive at best, hypotheses about their relationship seem premature. Instead, based on the theoretical framework outlined above, this study will try to answer the following research questions.

1. a. What kinds of public relations activities, or organizational output, are typical in each of the ~~four~~ Hage-Hull input typologies?
1. b. Do these activities vary significantly from one type to another?
2. Does the type of technology, or organizational throughput (extent of mechanization and also Thompson-based long-linked, mediating or intensive), within

the four types alter the relationship between type and public relations activities most prevalent there?

3. What structural variables within the public relations function vary significantly from type to type? These variables include size of the public relations department (in relation to the total organization), centralization of both public relations clearance and policy, formalization of job description for public relations personnel and authority level of the public relations function.

METHODOLOGY

Existing data collected by Grunig and analyzed in his 1976 monograph "Organizations and Public Relations: Testing a Communication Theory" were the basis for this secondary analysis.

The Original Survey

Population for the original study was defined as all organizations employing public relations practitioners in the Baltimore-Washington area. The 216 organizations responding represented nearly every type of organization, with the exception of trade associations and public relations firms since they provide public relations services to diverse clients. Included in the survey were local, state and federal governmental agencies; hospitals; churches; banks; real estate firms; schools; department stores; insurance companies; and manufacturers. They varied in size from a modest resource institute to the mammoth American Telephone and Telegraph Company. However, large organizations in terms of personnel size were overrepresented in the mail questionnaire since few small-scale organizations employ people solely to handle public relations activities.

A third important characteristic of the original sample, in addition to its impressive array of kinds of organizations

but emphasis on the large ones, is its reliance on individual, subjective data self-reported by one person within each organization. Financial resources limited responses to a single member of each organization -the top official of the public relations department. And although most questions could be answered objectively (like "Is there a written job description for your position in the organization?"), a few (like "How would you characterize the basic procedures or activities used in your organization? Are they very routine and unchanging? Somewhat routine and unchanging?" etc.) required opinion.

Nine structural variables often used in organizational research were included in the study. They are size, age, complexity, centralization, formalization, stratification, productivity, efficiency and compliance patterns. In addition, Grunig measured 16 common public relations practices and other communication variables taken from the organizational literature. From the resulting data, he discussed implications of his theory of communication behavior for the teaching and practice of public relations.

Secondary Analysis

Grunig's survey data were analyzed to develop organizational types based on scale and task complexity and to examine the relationship between those types, or independent variables, and the communication, or dependent, variables. The study also

looked at the relationship of technology, or the intervening variable, with both dependent and independent variables.

Conceptually, the environmental context or scale and complexity was considered the organization's input, technology the throughput and public relations activity the output. Statistical procedures included frequency counts, factor analysis, Pearson correlations and breakdown.

Factor Analysis

A preliminary factor analysis eliminated superfluous variables, those that seemed to measure much the same procedure, from Grunig's list of 16 typical public relations activities. Only variables that loaded high on more than one factor and those that loaded very high on a single factor were included in the subsequent correlations.

Correlation of Communication Variables with Organization Types

The rotated factor matrix provided a basis for reducing the original list of public relations activities to a more manageable list, less than a third of its original size. Six other communication variables also were correlated with the four types of organizations outlined in the Hage-Hull matrix. They are:

1. Size of the public relations or public information department, as measured by number of professionals working there (grouped in categories of "less than 5, 5-10, 11-25,

26-50 and more than 50").

2. Centralization of the public relations clearance process, as characterized by the procedures for clearance of news releases and publications (with four responses ranging from "no clearance required except for policy statements" to "clearance required by several people throughout the organization").

3. Centralization of public relations policy, determining if decisions about this policy are made by top administrators or, on a four-point continuum, by the public relations staff alone.

4. Power of the public relations department in relation to other departments within the organization, as gauged by a five-point scale ranging from "much more influence" to "much less influence."

5. Authority level of the public relations or public information department, with possibilities stated as "part of top management," "middle-level management" and "staff function which is not part of management."

6. Formalization of the job description for the public relations position in the organization (including extent of deviation from that description, if it exists).

The resulting correlations began to answer research questions 1. a. and 3--the kinds of public relations activities and other public relations dimensions typically found within each of the four types of organizations described by Hage and

Hull.

The Hage-Hull Typology

Two environmental input variables, rate of knowledge change and routinization or predictability of technology, were recoded from the original questionnaire values to fit into the four-cell Hage-Hull matrix. To accomplish this, they were dichotomized at the median value. Cutting at this arbitrary point created dummy variables to represent each of the four types.

The first of these independent variables, representing task complexity, asked respondents, "In recent years has the level of knowledge related to the procedures or activities used in your organization been expanding rapidly, slowly, or not at all?" Response categories, "rapidly," "slowly" or "not at all," split at the median, were divided into the two categories representing low and high complexity: "slowly" and "not at all" were combined to form the "low" cell and "rapidly" represented the "high" cell.

The second independent variable, scale, was measured by asking respondents about the repetitiveness of events in their organizational context: "How would you characterize the basic procedures or activities used in your organization? Are they very routine and unchanging, somewhat routine and unchanging, somewhat unpredictable and constantly changing, or very unpredictable and constantly changing?" Once again, these

response categories were split at the median into the two categories representing small and large scale. The first two combined to represent "small" and the second two, "large." Initially, of course, the two variables representing scale and task complexity had been correlated with each other to ensure they were additive, or truly measuring different organizational dimensions.

Other Correlations

Another correlation with the Hage-Hull typology was with the single structural variable "size of the organization," as measured by total number of employees (members or volunteers) working in the organization.

Finally, the four technology variables were correlated with each other, with the communication variables, and with the four types of organizations. The first measured the extent of mechanization (on a four-point scale ranging from "highly mechanized" to "mechanized hardly at all") and the other three represented the three types of technology measures defined by Thompson: long-linked, mediating and intensive. Together these correlations helped to answer the second research question regarding the relationship between technology, or an organization's throughput, and its input and output.

Breakdown

Another statistical technique, breakdown, gave a mean

score for each of the communication variables within the four-cell matrix as well as the number of organizations falling in each type. Accompanying one-way analysis of variance determined whether or not those means are really different. By so doing this process helped to answer research question 1. b), or whether or not public relations activities vary significantly from one type of organization to another.

FINDINGS

Frequencies

The first statistical procedure was a simple frequency count for each of the 70 variables in the questionnaire. The resulting percentages, although interesting in themselves, yield the least insight among the other statistical procedures undertaken here into the relationship between public relations and the four organizational types. However, the frequency count provided the initial insight into the overrepresentation of large organizations in the sample: the mean for this variable was 3.093, indicating that the average size as measured by total number of employees was between 1,000-5,000 and 5,000-10,000. The mode was 5, or "more than 10,000."

Factor Analysis

Factor analysis of the 16 common public relations practices eliminated the consideration of extraneous variables from the ensuing correlations. It grouped the following variables into five categories: writing press releases; conducting formal surveys of the public or employees before beginning a project or to evaluate the result of a project; conducting informal research of the public or employees before a project or in order to evaluate the results of a project; preparing house organs, magazines, newsletters, publications; making informal

contacts with the public; making contacts with "thought leaders"; making informal contacts with newsmen; holding press conferences and making formal contact with newsmen; staging events, tours, open houses; preparing tapes, films, audio-visual materials; preparing institutional advertisements; counseling management or administrators on public opinion toward the organization; contacting governmental officials; and writing speeches.

Results are shown in Table 1. Only the first two factors have an eigenvalue greater than 1.0, the conventional criterion for determining the number of relevant factors. (Together these two factors explain almost three-fourths of the variance.) However, three variables load high on more than one factor so they seem to indicate a pervasive public relations practice that should be included in the correlation with the four Hage-Hull types. They are writing press releases, holding press conferences and counseling management. Two other variables, conducting informal research before a project and writing speeches, load extraordinarily high on distinct factors (factor 1 and factor 4) so they were also included in the subsequent correlations.

Correlations

All throughput variables, input variables and major output variables were correlated with each other and with the four types of organizations, based on structural dimensions of

Table 1

FACTOR LOADINGS ON 16 COMMON PUBLIC RELATIONS ACTIVITIES (based on varimax rotation)

Activity

Activity	FACTOR 1	FACTOR 2	FACTOR 3	FACTOR 4	FACTOR 5	COMPLNALITY
1. Writing press releases				.57125	-.12460	.80089
2. Formal survey bef. proj.		.07290	.11317	.18267	.14888	.61717
3. Formal survey to eval.	-.05809	.71822	.22039	.07888	-.07888	.60111
4. Informal res. bef. proj.	.05285	.92000	.22088	.16511	.25689	.90810
5. Informal res. to eval.	-.02020	.19697	.93051	.08225	.23331	.50828
6. House organs, newsletter	.10874	.25718	.67760	.45707	.08880	.28666
7. Informal contacts/news	.15227	.05124	.05670	.25125	.05527	.26300
8. Press conferences	.87257	-.04606	.03708	.31675	-.08109	.86739
9. Informal cont. w. publ.	.50212	-.08021	.05730	.02266	.46756	.28780
10. Contact w. thought ldrs.	.00513	-.03737	.16387	.05335	.59720	.86532
11. Staging events	.22184	.19869	.14558	.82278	.29885	.38309
12. Preparing av materials	.08805	.27987	.17750	.26767	.16267	.32379
13. Institutional ads	.44888	.12988	.09661	.29788	.27252	.30998
14. Counseling management	-.12805	.75875	-.05022	.11481	.36310	.38426
15. Contact govt. officials	.30511	.16782	.14088	.20588	.18885	.38188
16. Writing speeches	.51301	-.16452	-.11678	.06883	.08680	.30196
	.61026	.03801	.00777			

scale and complexity. Pearson product-moment correlation coefficients of the variables with the Hage-Hull types are shown in Table 4.

Table 2 shows that the two structural dimensions of the environment, scale and task complexity, are not strongly correlated with each other. This key finding indicates that the two truly are different dimensions rather than a single dimension. This lack of strong association (.07, $p < .10$) also means that the two vary only moderately together. (This same finding characterized the Hage-Hull (1981) analysis but was a problem in the earlier Burns and Stalker (1961) research. Although multi-dimensional, the dimensions on their organic-mechanical continuum were assumed to vary together.) Hage's research (1980) has indicated that since complexity and size are not related, these are truly critical dimensions to cross-classify in constructing a typology.

Results of the Pearson correlation of the technology, or throughput, variables with each other are shown in Table 3. Extent of mechanization is significantly and positively correlated with long-linked technology, as indicated by Thompson's notion of the assembly-line process. Mechanization is inherent in this type of technology. Correlations with Thompson's other two types of technology, mediating and intensive, tend to be negative but are statistically weak.

Long-linked technology is significantly and negatively correlated with both mediating and intensive technology. In

Table 2

CORRELATES OF ORGANIZATIONAL DIMENSIONS WITH EACH OTHER

	Scale	Complexity
Scale	1.00	.07*
Complexity	.07*	1.00

*Significant at the .10 level.

Table 3

CORRELATES OF TECHNOLOGY VARIABLES WITH EACH OTHER AND WITH SELECTED COMMUNICATION VARIABLES

Technology	Mechanization	Long-linked	Mediating	Intensive
Mechanization	1.00	.29****	-.07*	-.10*
Long-linked	.29****	1.00	-.24****	-.40****
Mediating	-.07*	-.24****	1.00	-.75****
Intensive	-.10*	-.40****	-.75****	1.00
<u>Communication</u>				
writing press releases	-.04	-.07	-.04	-.08*
conducting informal research fore a project	-.06	-.06	-.05	-.09*
Holding press conferences & Making contact with newsmen	.06	.08*	-.15**	.09*
Counseling management	.09*	.09*	-.07	.00
Writing speeches	-.00	.11**	-.10*	.04
Size of pr department	.04	.30***	-.11*	-.08*
Centralization of pr clearance	.06	.18***	-.05	-.06
Centralization of pr policy	.06	-.00	.03	-.06
Power of pr department	.00	.03	-.05	.02
Authority level of pr dept.	-.09*	.03	-.19	-.02
Formalization of pr job description	-.01	.00	-.11*	.08*

*Significant at the .10 level.

**Significant at the .05 level.

***Significant at the .01 level.

****Significant at the .001 level.

other words, the more long-linked the technology in an organization, the less likely it is to have either mediating or intensive technology as well. Mediating and intensive technologies also correlate significantly and negatively with each other.

Table 3 also shows the correlates of these technology variables with critical communication variables--public relations practices and other public relations dimensions. Both size of the public relations department, as measured by the number of professionals working there, and centralization of the clearance process show a strong association with a technology variable: long-linked. As might have been expected, assembly-line operations tend to be large and they, in turn, tend to hire more employees altogether and more public relations personnel at the same time. Long-linked technology, then, is a strong indicator of the size of the public relations department in many organizations--and vice versa. It is also a predictor of the tendency to centralize clearance of public relations output.

Other correlations between technology and communication variables, even those that are statistically significant, are weak. Apparently an organization's throughput and output variables, as measured in terms of technology and public relations, do not affect each other as much as do the input variables of size and task complexity.

Pearson product-moment correlation coefficients of the

variables with the Hage-Hull types are shown in Table 4. The determinants of the typology, scale and task complexity, of course correlate significantly with all four types because those types are made up of the two structural variables.

Only one of the four Hage-Hull types of organizations is a significant predictor of public relations activities, or vice versa. The mixed mechanical/organic type puts more emphasis on holding press conferences and making formal contact with newsmen than do the other three types of organizations. It is also significantly and positively related to counseling management and writing speeches and press releases. The most strongly negative association among these variables is that between holding press conferences and the organic organization. These findings jibe with the expectation stated earlier that primarily large-scale organizations with high knowledge and complexity would rely on boundary personnel to publicize their qualitative breakthroughs and large volume but relatively short product life. Boundary spanners like public relations professionals also would help cope with a shifting market and other aspects of the environmental uncertainty characteristic of this organizational type.

A weak but nevertheless interesting correlation emerges between the two centralization measures and the two large-scale types of organizations. In all four cases the correlation, although typically statistically insignificant, is negative. This finding indicates that to a limited

Table 4

SCALE AND COMPLEXITY AS DETERMINANTS OF ORGANIZATION FORM AND
CORRELATES OF THE DUMMY VARIABLES REPRESENTING EACH TYPE

<u>Determinants</u>	<u>Traditional</u>	<u>Mechanical</u>	<u>Organic</u>	<u>Mixed</u>
Scale	-.47****	.46****	-.42****	.54****
Task Complexity	-.55****	-.58****	.44****	.64****
<u>PR Activities (from factor analysis)</u>				
Writing press releases	-.03	-.09*	-.00	-.13**
Conducting informal research before a project	-.07	-.00	-.02	.08
Holding press conferences & Making contact with newsmen	-.07	-.01	-.13**	.22****
Counseling management	-.07*	-.03	-.05	.18**
Writing speeches	-.05	-.04	-.02	.13**
<u>Other PR Dimensions</u>				
Size of pr department	.01	.11*	-.12**	.01
(Size of the total organization)	.03	.03	-.05	-.00
Centralization of pr clearance	.10*	-.07	.02	-.04
Centralization of pr policy	.08*	-.01	.10*	-.14**
Power of pr department	-.26****	.17***	-.11**	.18***
Priority level of pr department	-.19***	.03	.00	.18***
Formalization of pr job description	-.00	.04	-.00	.02
<u>Technology</u>				
Mechanization	.03	-.11*	.11*	-.00
Long-linked	.05	-.07*	-.07	.11**
Mediating	-.10*	.07	.03	.01
Intensive	.05	-.02	.01	-.06

*Significant at the .10 level.

**Significant at the .05 level.

***Significant at the .01 level.

****Significant at the .001 level.

extent, the larger the scale of the organization, the less centralization of both public relations clearance procedures and public relations policy. A tentative explanation lies in the possibility of public relations professionals actually holding management-level positions in large-scale organizations more often than in their small-scale counterparts. In other words, public relations professionals in mechanical and mixed organizations may themselves be top administrators with responsibility for setting departmental policy and clearing publications.

Power and authority level also correlate significantly with the Hage-Hull typology. Power is negatively correlated with traditional or craft-type organizations and positively with both large-scale types: mechanical and mixed mechanical/organic. This finding adds credibility to the argument that the public relations professional sits closer to the top of the hierarchy in a large-scale organization than he or she does in the organization of simple machines, few employees and relatively low productivity. The correlation between power and organization type is also negative but less statistically significant with organic organizations, those with small batch runs and high professional skills.

The pattern for authority level mirrors that of power with the craft and the mixed organization types. Public relations is most often a staff function, rather than part of management, in the traditional organization whereas it is more apt to be part of top management in the mixed type. Again, this finding suggests that large-scale organizations are more dependent on public relations practitioners to help them cope with their environment.

Size of the public relations department, which correlates significantly with all three types of Thompson technologies, also correlates significantly with size of the total organization and so was expressed in raw numbers rather than in proportion to the size of the organization as a whole. (Correlation between the two size measures is .58, $p \leq .001$.) Size of the total organization fails to correlate significantly with any of the four Hage-Hull types of organizations, in spite of the fact that one determinant of scale has been assumed to be size. This helps to confirm the notion that the organizations sampled have more employees than does the typical organization.

Size of the public relations staff correlates significantly but negatively with the organic organization and only somewhat positively with the mechanical. Interestingly, there is no significant correlation between size and the mixed mechanical/organic organization. The small-scale organic organization, though, is least likely to have a sizeable public relations office.

Formalization of the role of the public relations practitioner, as measured by the existence of a written job description and extent of deviation from it, fails to correlate significantly with any of the Hage-Hull organization types. An explanation for this lack of association may lie in the finding (from the frequency distribution) that only 19.5 percent of all public relations professionals surveyed had such formalized roles.

Finally, a look at the correlates of all four technology variables with organization types fails to show any strong, significant relationships. Long-linked, or assembly-line, technology is only somewhat more typical of

the mixed mechanical/organic organization.

Breakdown

The breakdown process first provided the number of organizations falling in each of the four cells of the Hage-Hull matrix--47, 51, 40 and 70, respectively (totalling 208, rather than the 216 organizations responding, because of missing data). Within each of the cells, then, breakdown provided a mean score of the communication variables and a one-way analysis of variance to determine whether or not those means are truly different.

Table 5 shows that in only one public relations activity was the F value statistically significant at the .001 level--public relations professionals in mixed organizations have a significantly higher incidence of holding press conferences and making formal contacts with newsmen. Somewhat surprisingly, the F value of this variable in organic organizations also shows a significantly different mean than in the two types of organizations with low task complexity.

On the whole, the fourth organizational type showed more public relations emphasis than did any of the other three. Only one activity variable, conducting informal research before a project, showed no significant difference among the four Hage-Hull types.

As in the earlier discussion of correlation between public relations dimensions and the typology of organizations, once again power and authority level are the two primary indicators of differences among the four kinds of organizations. This finding supports the foregoing assertion that the power of the public relations professional is more

Table 5

MEAN SCORES OF COMMUNICATION VARIABLES BROKEN DOWN BY ORGANIZATION TYPE

Communication Variables	Entire Population	Organization Type			
		Traditional (N=47)	Mechanical (N=51)	Organic (N=40)	Mixed Mechanical/Organic (N=70)
Writing press releases°	3.69	3.66	3.56	3.70	3.81*
Conducting informal research before a project°	2.91	2.79	2.90	2.88	3.01
Holding press conferences & Making contact with newsmen°	2.95	2.83	2.94	2.70**	3.24***
Counseling management°	3.31	3.19	3.35	3.23	3.46*
Writing speeches°	2.95	2.85	2.88	2.95	3.13**
Size of pr department	1.88	1.91	2.12*	1.58*	1.90
Centralization of pr clearance	2.15	2.38	2.00	2.20	2.09
Centralization of pr policy	2.46	2.57	2.45	2.63	2.31**
Power of pr department	3.19	2.66****	3.53***	2.93*	3.47***
Authority level of pr dept.	2.60	2.36***	2.63	2.60	2.77***
Formalization of pr job description	2.53	2.53	2.61	2.53	2.56

°The higher the mean value, the more frequency of conducting these activities.

*Significant at .10 level; **Significant at .05 level; ***Significant at .01 level; ****Significant at .001 level.

pronounced in large-scale organizations. In both small-scale organizations, the organic and the traditional, the mean scores for power are significantly lower than for all organizations. Authority level of the public relations function is significantly higher in mixed mechanical/organic organizations and significantly lower in the craft type. And once again, a centralization measure seems to indicate a negative relationship between the mixed type of organization and centralization of public relations policy. This mean is significantly lower than for the other three organizations but as with the correlational analysis, the finding is too weak to be decisive.

DISCUSSION

Analysis of the findings of this study have helped to answer the research questions asked. Although some predictions based on earlier research have not been confirmed, other expected results did occur. Even unexpected results add to the total picture of communication within organizations. Together these findings offer scholars of both public relations and organizations a greater understanding of the role public relations plays in various types of organizations.

The first research question asked what kinds of public relations activities are typical output for the four Hage-Hull typologies of organizational input. Although 16 such activities were proposed, factor analysis and correlational analysis both indicated that a few (writing speeches, counseling management and writing press releases) are common practice across organizations. Others, like conducting informal research before beginning new projects and holding press conferences, might be typical only of certain organizations. So, these five variables seemed to be critical measures of both pervasive and organization-specific activities. However, only the fourth organizational type, mixed, seemed to be indicative of these activities to any extent. Within mechanical/organic organizations, public relations professionals spend more time holding press conferences, making formal contact with newspeople, counseling

management and writing press releases. No significant differences among the remaining three types of organizations emerged.

The second research question asked about the relationship between technology and the interaction of organizational type and public relations. The two ways of looking at technology--extent of mechanization and Thompson's concept of long-linked, mediating and intensive--gave only marginal information about the relationship between public relations and type of organization.

The picture that did emerge of this association involved primarily long-linked technology. Organizations with this assembly-line operation tend to have larger public relations departments and substantially more centralization of clearance for public relations. Since long-linked technology is also associated with the mixed mechanical/organic organization type, the latter finding is surprising. Without taking technology into consideration, centralized public relations clearance is negatively related to this fourth cell in the Hage-Hull matrix. Perhaps, then, mixed types of organizations only are characterized by centralization of public relations clearance when their technology is, in Thompson's terminology, long-linked.

Correlating other structural variables measuring public relations with the Hage-Hull typology helped to answer the third research question about variation among types of organizations. Centralization, both of public relations clearance and policy, showed a negative tendency of association with both large-scale types of organizations but power and authority level were the key concepts in this analysis.

As anticipated, public relations practitioners employed in traditional, craft-type organizations have the least power and authority. Organic organizations also relegate little power to the public relations department, but power and authority level are prominent in the mixed type. Power is also a characteristic of the public relations department in mechanical organizations.

Summary

To summarize the above discussion, consider the emerging profile of the four Hage-Hull types of organizations. The first, or traditional, is characterized by public relations practitioners who only rarely counsel management about public opinion toward their organization. Public relations activities and policy clearance process are more centralized than in other kinds of organizations; power and authority level are significantly lower.

The public relations department in a mechanical organization, on the other hand, is a somewhat larger operation that has much more power. There is less centralization of the public relations function in this type of organization. However, few other public relations or technology variables studied shed much light on communication with this type.

The organic organization is the only one among the four types to place significantly less emphasis on holding press conferences and making formal contact with journalists. Its public relations department is the smallest and perhaps that accounts for its lack of power within the organization.

This study provided the most insight into the mixed type of organization. Public relations professionals in that setting do the

least amount of writing of press releases. They spend more of their time, instead, in writing speeches, counseling management, holding press conferences and establishing formal connections with the news media. These activities are typical among boundary spanners, as the literature had predicted. This analysis also showed, though, that this type of organization gives its public relations department the most power and authority and has the least centralization of public relations policy.

Recommendations for Further Study

Isolating and identifying the communication characteristics of four different types of organizations, based on their environmental niches, has only begun in this study. The prediction emerging from the literature that boundary spanners would proliferate in the large-scale, high task-complexity sector was confirmed in this study--both by size of the public relations department and by the power and authority given it there. However, the assumption that the organic organization, small in scale but also characterized by high rate of change in knowledge, would require boundary spanners for successful coexistence with its environment was not supported. The influence of technology on public relations in this and the craft as well as mechanical organization needs to be studied further as well.

Using data collected for another study precludes the use of all appropriate measures for this study. Future researchers might want to devise their own measure of task complexity, for example, and scale. They might also want to use a sample of organizations with more heterogeneity of size while preserving the variety of kinds of organizations

represented here.

Whatever sample and measures may be used in future research, the description of public relations within the Hage-Hull typology of organizations should be taken from the outline stage presented here to the fully developed status of most other aspects of organizational structure.

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